**IN THE SPECIFICATIONS**

On page 2, line 1, please amend the section entitled "**CROSS REFERENCES TO RELATED APPLICATIONS**" as indicated::

This application is a Continuation of US Patent Application Ser. No. 10/119,586 (now US Patent 6,637,524) which is a Continuation of United States Patent Application Ser. No. 09/839,423 now United States Patent 6,446,736 which is a continuation of United States Patent application Ser. No. 08/247,340, now United States Patent 6,247,542 which claimed [takes] priority from Provisional United States Patent Application Ser. No. 60/077,144 filed on March 6, 1998.

Please amend the paragraph starting on page 9, line 10 as indicated:

**Figure 1** shows a schematic diagram of a drilling system **10** with a drillstring **20** carrying a drilling assembly **90** (also referred to as the bottom hole assembly, or "BHA") conveyed in a "wellbore" or "borehole" **26** for drilling the wellbore. The drilling system **10** includes a conventional derrick **11** erected on a floor **12** which supports a rotary table **14** that is rotated by a prime mover such as an electric motor (not shown) at a desired rotational speed. The drillstring **20** includes a tubing such as a drill pipe **22** or a coiled-tubing extending downward from the surface into the borehole **26**. The drillstring **20** is pushed into the wellbore **26** when a drill pipe **22** is used as the tubing. For coiled-tubing applications, a tubing injector ~~, such as an injector~~ (not shown) ~~, however~~, is used to move the tubing from a source thereof, such as a reel (not shown), to the wellbore **26**. The drill bit **50** attached to the end of the drillstring breaks up the geological formations when it is rotated to drill the borehole **26**. If a drill pipe**22** is used, the drillstring **20** is coupled to a drawworks **30** via a Kelly joint **21**, swivel, **28** and line **29** through a pulley **23.** During drilling operations, the drawworks **30** is operated to control the weight on bit, which is an important parameter that affects the rate of penetration. The operation of the drawworks is well known in the art and is thus not described in detail herein.

Please amend the paragraph starting on page 10, line 6 as indicated:

During drilling operations, a suitable drilling fluid **31** from a mud pit (source) **32** is circulated under pressure through a channel in the drillstring **20** by a mud pump **34.** The drilling fluid passes from the mud pump **34** into the drillstring **20** via a desurger ~~desurger **36**~~ (not shown), ~~fluid line **28**~~ fluid line **38** and Kelly joint **21.** The drilling fluid **31** is discharged at the borehole bottom **51** through an opening in the drill bit **50.** The drilling fluid **31** circulates uphole through the annular space **27** between the drillstring **20** and the borehole **26** and returns to the mud pit **32** via a return line **35.** The drilling fluid acts to lubricate the drill bit **50** and to carry borehole cutting or chips away from the drill bit **50.** A sensor $S_1$ preferably placed in the line **38** provides information about the fluid flow rate. A surface torque sensor $S_2$ and a sensor $S_3$ associated with the drillstring **20** respectively provide information about the torque and rotational speed of the drillstring. Additionally, a sensor (not shown) associated with line **29** is used to provide the hook load of the drillstring **20.**

Please amend the paragraph starting on page 11, line 11 as indicated:

In one embodiment of the invention, a drilling sensor module **59** is placed near the drill bit **50.** The drilling sensor module contains sensors, circuitry and processing software and algorithms relating to the dynamic drilling parameters. Such parameters preferably include bit bounce, stick-slip of the drilling assembly, backward rotation, torque, shocks, borehole and annulus pressure, acceleration measurements and other measurements of the drill bit condition. A suitable telemetry or communication sub **72** using, for example, two-way telemetry, is also provided as illustrated in the ~~drilling assembly **100**~~ drilling assembly **90**. The drilling sensor module processes the sensor information and transmits it to the surface control unit **40** via the telemetry system **72**.

Please amend the paragraph starting on page 23, line 9 as indicated:

The embodiment illustrated in **Figure 8** further includes a belt drive device **308** for providing a non-continuous movement of the sensor assembly **113** relative to the propagation of the drillstring **20**. The belt drive device **308** moves the sensor **113** relative to the propagation of the drillstring **20** in a non-continuous step-movement. The belt drive device **308** includes a sleeve **310**, a coupling **320** between rotating and non-rotating sections, at least one counterwheel **312**, one or more belt pulleys **314**, a belt **316**, and a connecting rod **318**. The sleeve **310** is slidably coupled to the rotating section of the drillstring **20** and is pulled along with the propagation of the drillstring **20** by the counterwheel **312**, which is engaged with the borehole wall during drilling operations. The belt pulleys **314** and the belt **316** are connected to the sleeve **310** and form a belt drive driven by wheels engaged with the borehole wall. The belt pulleys **314** and the belt **316** are connected to the rotating to non-rotating coupling **320** through the connecting rod **318**. As the drillstring **20** propagates through the borehole, the belt **316** rotates around the belt pulleys **314** and pull the connecting rod **318** which acts to pull the coupling **320** in a step movement as ~~a first end **328**~~ an end of the connecting rod **318** rotates around the belt pulleys **314** with the belt **316**. The rotating to non-rotating coupling **320**, including bearings **324**, couples the guide sleeve **109** of the sensor assembly **113** to the belt drive device **308** for providing controlled non-continuous movement of the sensor assembly **113** relative to the propagation of the drillstring **20**. Those versed in the art would recognize that other arrangements, such as a chain drive, or an electrically operated stepper motor, could also be used to provide the stepping movement. Such alternative arrangements are intended to be within the scope of the present invention.